User Manual

Sapphire EDGE VS Series Mini PC

1. Product Specifications

Item	Description	
CPU	AMD® APU Trinity A4	AMD® APU Trinity A8
Graphics	AMD® Radeon™ HD7400G	AMD® Radeon™ HD7600G
Chipset	AMD® Hudson-M3 (A70M) Chip	
RAM	4GB – DDR3	
Storage	2.5'' SATA 320GB / 500GB / 750GB HDD	
LAN	Built-in Ethernet supporting 10/100/1000 Mbps	
WIFI / BT	Built-in WIFI supporting IEEE 802.11 b/g/n ; BT 3.0	
I/O	1x Mini DisplayPort, 1x HDMI, 1x RJ45, 2x USB 3.0 Ports, 4x USB 2.0 Ports, 1x Audio-out, 1x MIC-in, 1x SPDIF-out	
Power	AC100~240V 50/60Hz, DC19V 3.42A 65W	
Dimensions	197.5(L) X 182.5(W) X 31.6(H) mm	
Weight	660g	
Operating System	Pre-installed with FREE DOS; Supports Win8/Win7/Vista	

Important information for your safety and comfort

Please read these instructions carefully before using the product and save for future reference.

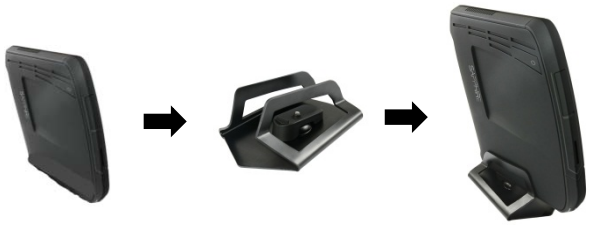
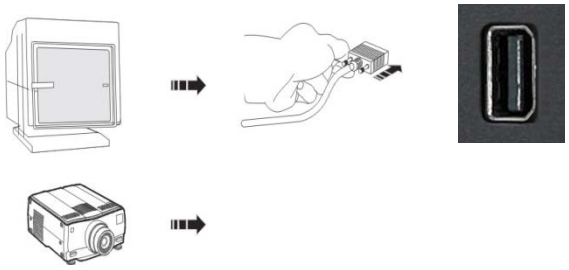
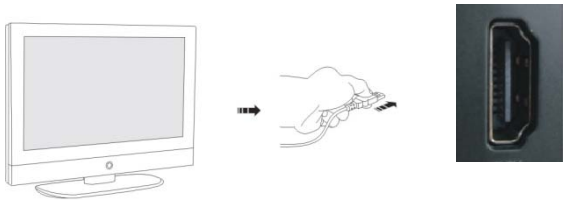
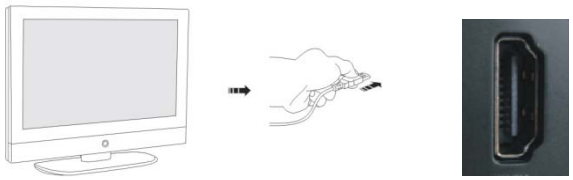
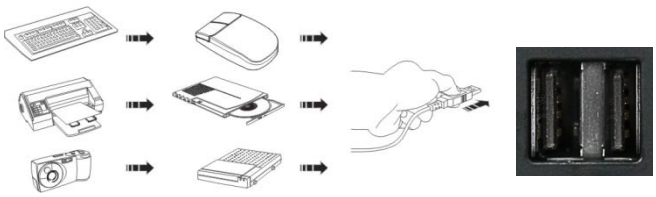
- Ensure that the Mini-PC is turned off and disconnected from the mains supply before cleaning
- Do not use liquid or aerosol cleaners, a damp cloth should suffice
- Insert the power connector into the Mini PC before plugging the mains cable into the AC power outlet.
- When you need to disconnect power to the equipment, unplug the power cord from the AC power outlet before removing the power connector from the Mini PC.

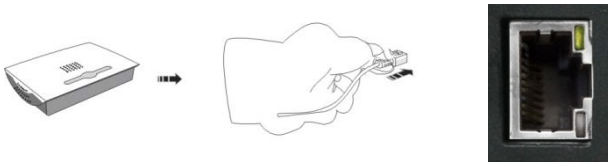
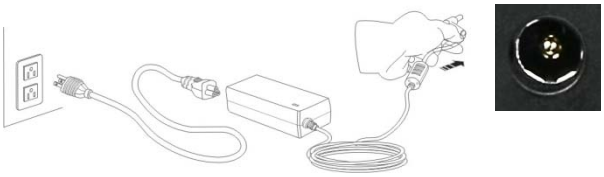
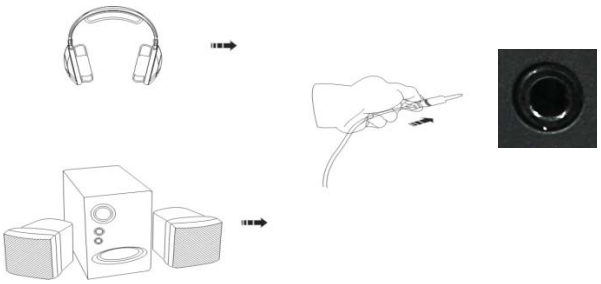
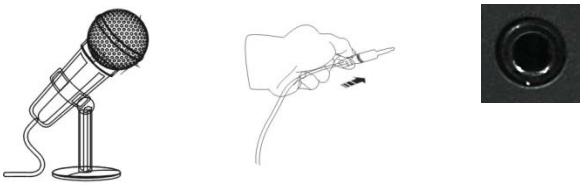
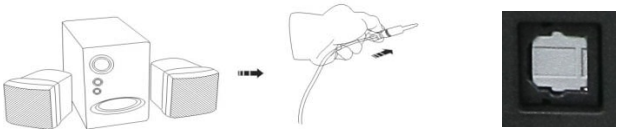
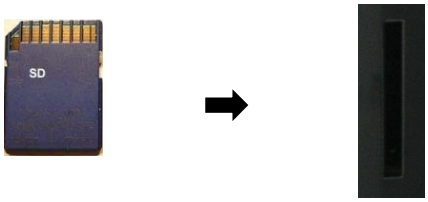
2. Product Overview

Features

No.	Item	Description
1	Power Switch	To switch the Mini PC ON or OFF.
2	Front USB3.0 Ports (remove cover)	To connect USB devices.
3	SD/MMC Connector	To insert SD/MMC memory cards
4	Power Indicator light and HDD / Wi-Fi Activity Indicator	The light will glow (white) when the power is on and will flash when the hard disk (orange) / Wi-Fi (green) is in use
5	Mini Display port	To connect display devices
6	HDMI port	To connect display devices
7	Rear USB 2.0 Ports	To connect USB devices
8	LAN Port	To connect to an Ethernet LAN
9	DC Input	To connect the power supply
10	Audio out jack	To connect headphones or speakers
11	Microphone in jack	To connect a microphone or other audio source
12	Optical S/PDIF	To connect digital audio devices

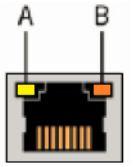
3. Mini PC Setup and Connections

To attach the desktop stand Align stand with the base of the Mini PC and fix with screw provided.	
To connect to a display Connect a display device to the mini display connector located at the rear of the unit.	
To connect to an HDMI display / TV Connect the display device to the HDMI connector located at the rear of the unit.	
To connect to a DVI display (1). Connect the HDMI to DVI adapter included with the Mini PC to the HDMI port located at the rear of the unit. (2). Connect the DVI monitor to the female DVI port on the adapter.	
To connect USB devices Connect USB devices to the USB ports located both at the rear of the unit and under the cover at the front of the unit.	

To connect to a network Connect the Ethernet cable from your network switch / router to the RJ45 LAN connector located at the back of the unit.	
To connect the power adapter Connect the power connector from the supplied power supply to the DC – In connector located at the rear of the unit BEFORE attaching the mains power cable to an AC outlet.	
To connect speakers or headphones Connect the 3.5mm audio cable to the Audio Out jack located at the rear of the unit.	
To connect a microphone or other audio source Connect the 3.5mm audio cable to the Line In jack located at the rear of the unit.	
To connect digital speakers or other digital audio devices Connect the S/PDIF cable to the S/PDIF jack located at the rear of the unit.	
To read media files from an SD/MMC memory card Insert the SD/MMC card into the SD/MMC Connector.	

***Note1**:*

This Mini PC provides one standard RJ-45 jack for connecting to a Local Area Network (LAN). Two LEDs are built into the RJ-45 LAN connector. These LEDs indicate the status of the LAN.



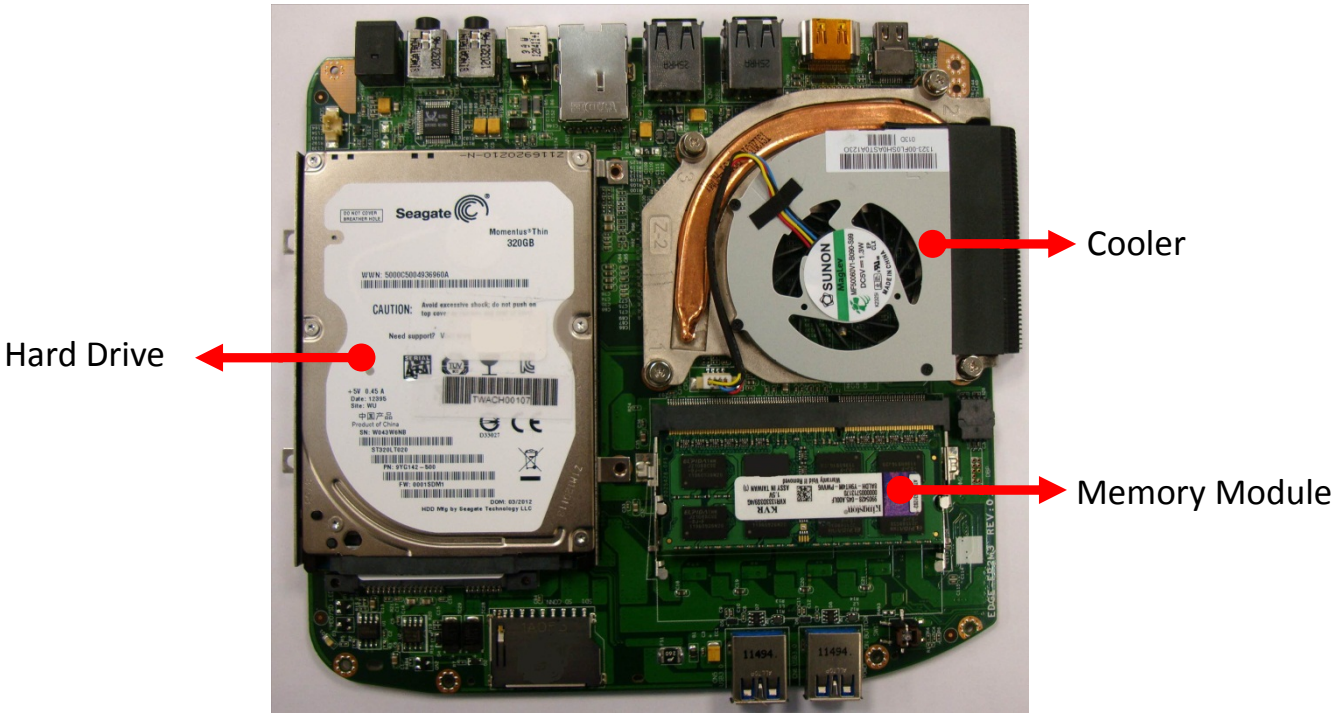
LED	LED Color	LED state	Indicates
A	Yellow	Off	LAN link is not established
		On	LAN link is established
		Blinking	LAN activity is occurring
B	N/A	Off	10 Mb/s data rate
	Green	On	100 Mb/s data rate
	Orange	On	1000 Mb/s data rate

***Note2**:*

The system provides a Clear CMOS function, which may be helpful once the system is not working normally as usual and can't be fixed by even rebooting the system. You can use a small object such as a paperclip pushing into the hole and pressing the button hidden inside for at least five seconds. Once the system state is cleared via above operations, you need to set up the correct system state by loading BIOS default. Another use of this button is when BIOS is updated, you need to press this button to clear original settings and then load BIOS default to complete the BIOS update procedure.

4. Mainboard Layout

The following figure shows the location of components on the mainboard.



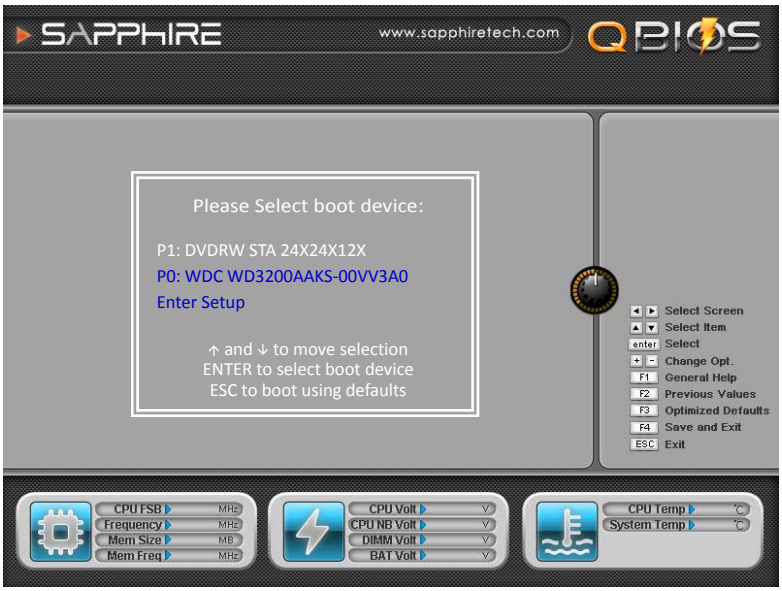
Note:
Picture is for reference only, actual board may be slightly different.

5. Configuring the BIOS

This chapter provides information on the BIOS Setup program and allows you to configure the system for optimum use.

5-1 Select Boot Device

Select Boot Device Menu allows you to set the first boot device without entering BIOS Setup.
During Power On Self Test (POST), you can press the <F7> key to enter select boot device menu. The system will directly boot from the device configured in Boot Menu.



5-2 Enter BIOS Setup

The BIOS is the communication bridge between hardware and software. Correctly setting the BIOS parameters is critical to maintaining optimal system performance.

Use the following procedure to change BIOS settings.

1. Power on the computer.
2. Press the **Del** key when the following message briefly shows upon the bottom of the display during Power On Self Test (POST).

   Press F1 to continue, DEL to enter Setup.

   Pressing Del takes you to the BIOS Aptio Setup Utility.

Note1: It is strongly recommended that you do not change the default BIOS settings. Changing some settings could damage your computer.

Note2: The BIOS options in this manual are for reference only. BIOS screens in manuals are usually the first BIOS version when the board is released and may be different from your purchased motherboard. Users are welcome to download the latest BIOS version from our official website. (www.sapphiretech.com)

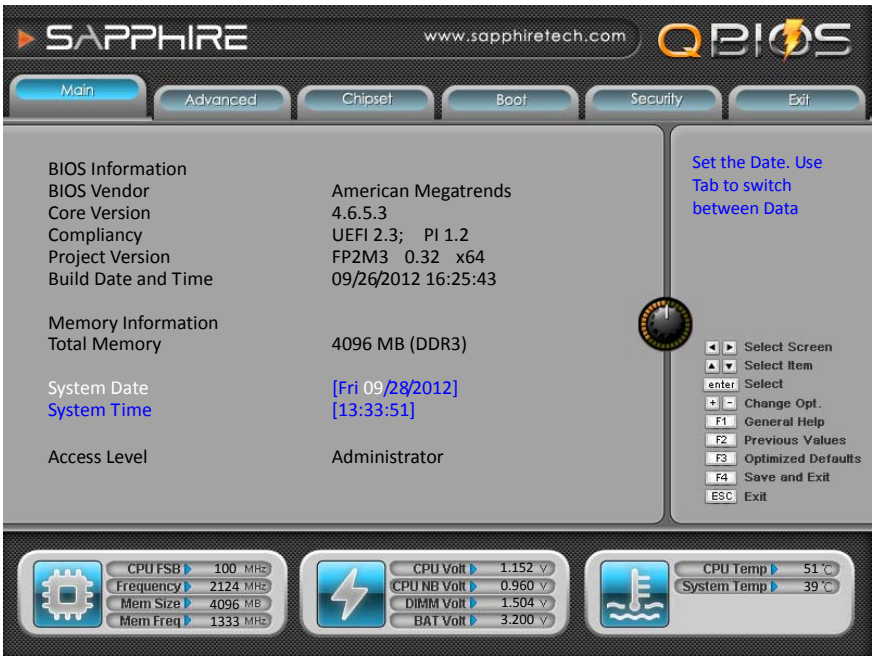
Control Keys

Please check the following table for the function description of each Control key.
You can also use the mouse to click your required item.

Control Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F2>	To load previous values for all the settings
<F3>	To load optimal default values for all the settings
<F4>	To save changes and exit the SETUP UTILITY
<ESC>	To jump to the Exit Screen or exit the current screen

5-3 Main Menu

When entering the Aptio Setup Utility, the main menu screen appears. This main menu includes the system overview and displays the basic system configuration, such as BIOS information, memory size and system date/time.



BIOS Information

This field displays the current BIOS version, build date and ID information etc.

Memory Information

Able to display current system memory size.

System Date

Allows you to set the system date. The format is <Day><Month><Date><Year>.

[Day] Weekday from Sun. to Sat., this is automatically displayed by BIOS.

[Month] The month from 1 to 12.

[Date] The date from 1 to 31 can be keyed by numeric function keys.

[Year] The year can be adjusted by users.

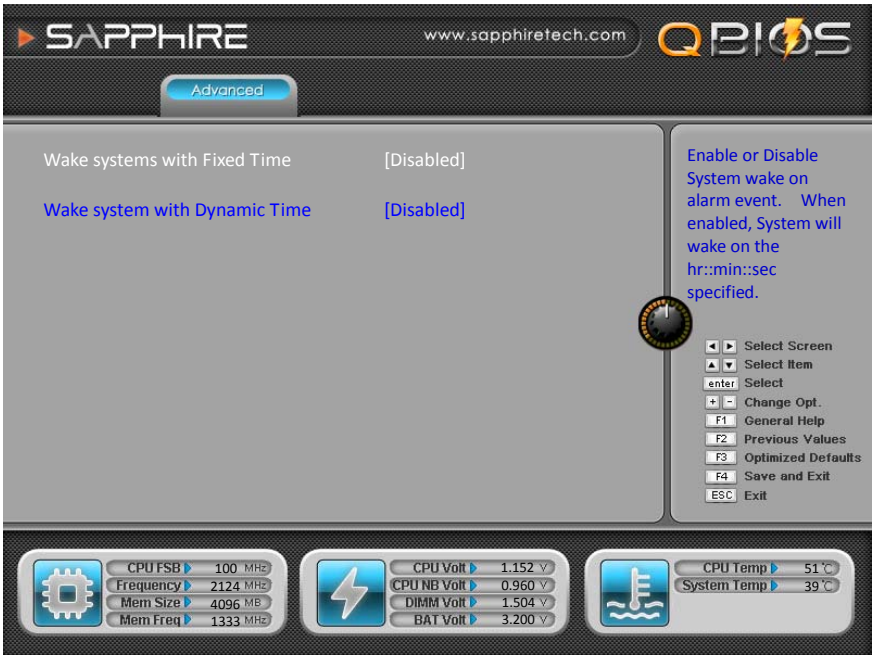
System Time

Allows you to set the system time. The time format is <hour>:<minute>:<second>.

5-4 Advanced Menu

The Advanced menu items allow you to change the settings for the CPU, USB and other system devices. Press <Enter> to display the configuration options.

▶ RTC Wake Settings



Wake system with Fixed Time

Enable or disable system wake on alarm event. When enabled, system will wake on the hr:min:sec specified.

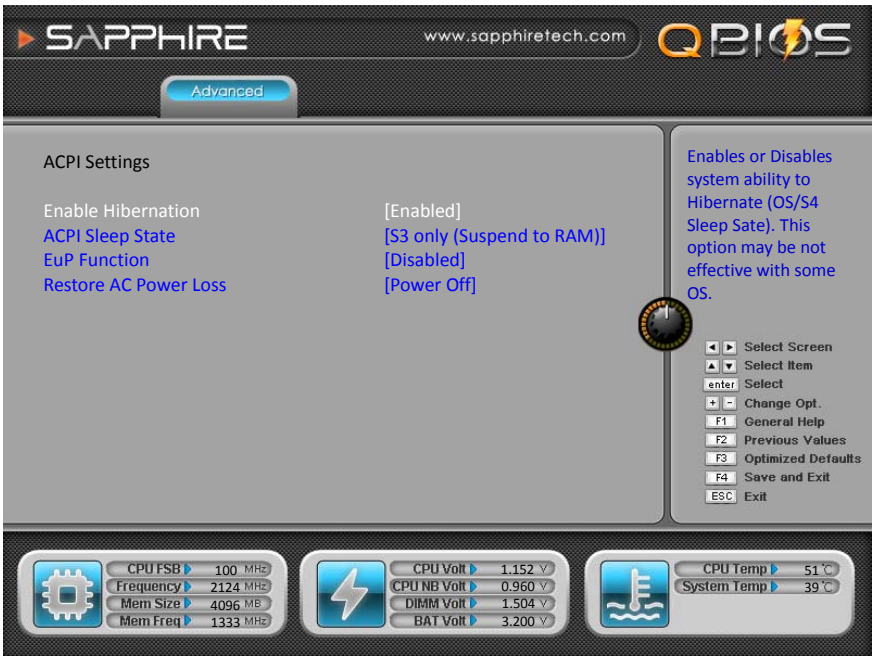
Options: Enabled, Disabled.

Wake system with Dynamic Time

Enable or disable system wake on alarm event. When enabled, system will wake on the S5, S4, S3 time + Increase minutes(s).

Options: Enabled, Disabled.

ACPI Settings



Enable Hibernation

Enables system ability to Hibernate (OS/S4 Sleep Sate). This option may be not effective with some OS.

Options: Enabled, Disabled.

ACPI Sleep State

Selects the power saving modes for ACPI function.

Options: Suspend Disabled, S3 only (Suspend to RAM).

EuP Function

Enables the EuP (Energy Using Products) function, allows BIOS to switch off some power at S5 state to get system ready for the EuP requirement to reduce power consumption.

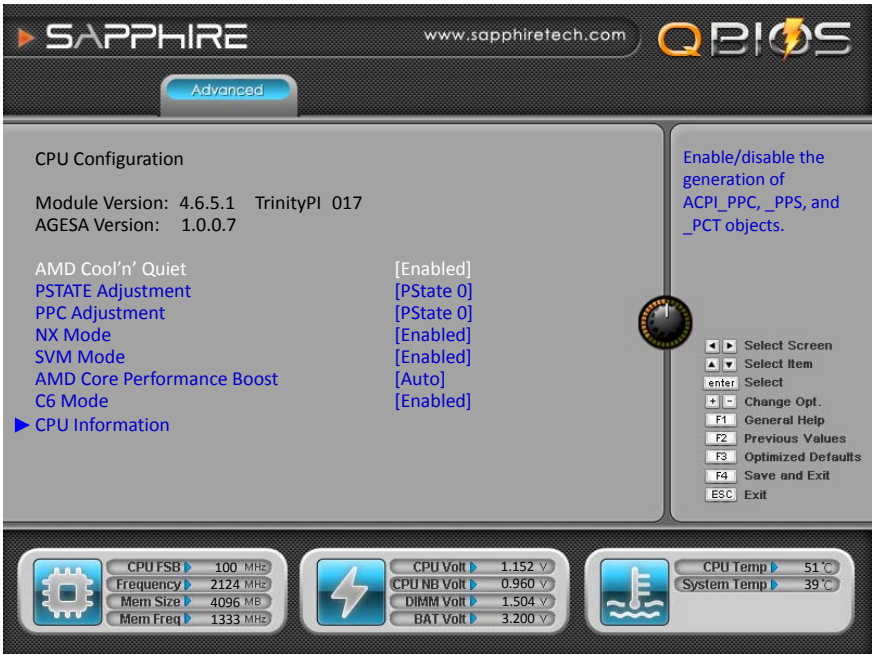
Options: Enabled, Disabled.

Restore on AC Power Loss

Enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

Options: Power off, Power on, Last State.

CPU Configuration



AMD Cool'n' Quiet

Cool'n'Quiet is a CPU speed throttling and power saving technology by AMD.
Options: Enabled, Disabled.

PSTATE Adjustment

Allows you to adjust startup P-state level.
Options: PState 0, PState 1, PState 2, PState 3, PState 4, PState 5, PState 6, PState 7.

PPC Adjustment

Allows you to adjust PPC object.
Options: PState 0, PState 1, PState 2, PState 3, PState 4.

NX Mode

Enable or disable No-execute page protection function.
Options: Enabled, Disabled.

SVM Mode

Enables the CPU SVM(Secure Virtual Machine) function.
Options: Enabled, Disabled.

AMD Core Performance Boost

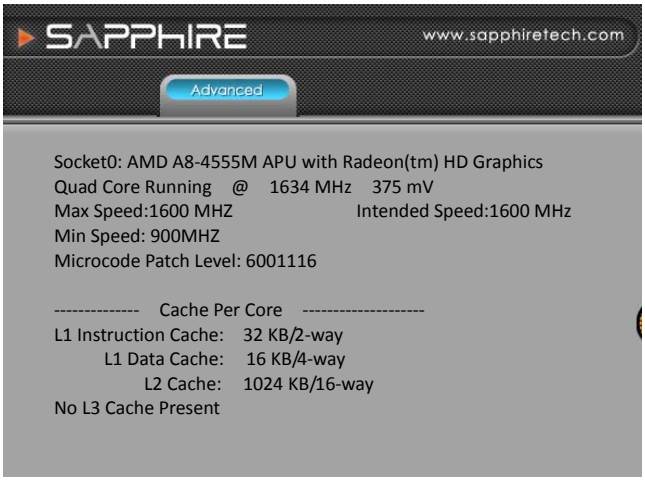
Allows you to disable AMD Core Performance Boost.
Options: Auto, Disabled.

C6 Mode

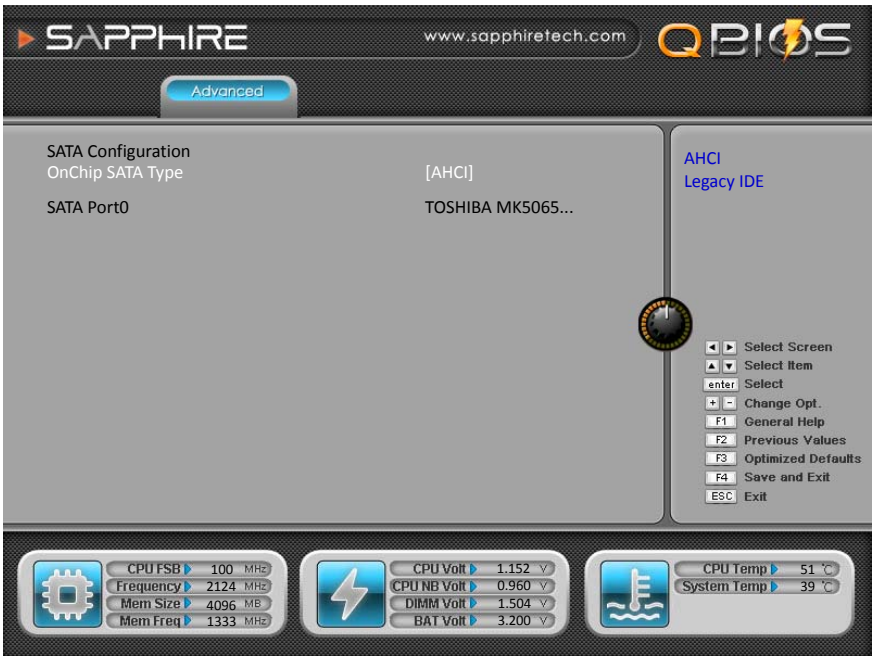
Allows you to select C6 State for processor.
Options: Enabled, Disabled.

CPU Information

Displays the CPU related information.


SAPPHIRE
www.sapphiretech.com
Advanced
Socket0: AMD A8-4555M APU with Radeon(tm) HD Graphics
Quad Core Running @ 1634 MHz 375 mV
Max Speed:1600 MHZ Intended Speed:1600 MHz
Min Speed: 900MHZ
Microcode Patch Level: 6001116
---------- Cache Per Core ----------
L1 Instruction Cache: 32 KB/2-way
L1 Data Cache: 16 KB/4-way
L2 Cache: 1024 KB/16-way
No L3 Cache Present

SATA Configuration



OnChip SATA Type

Allows you to set the onboard Serial SATA type.

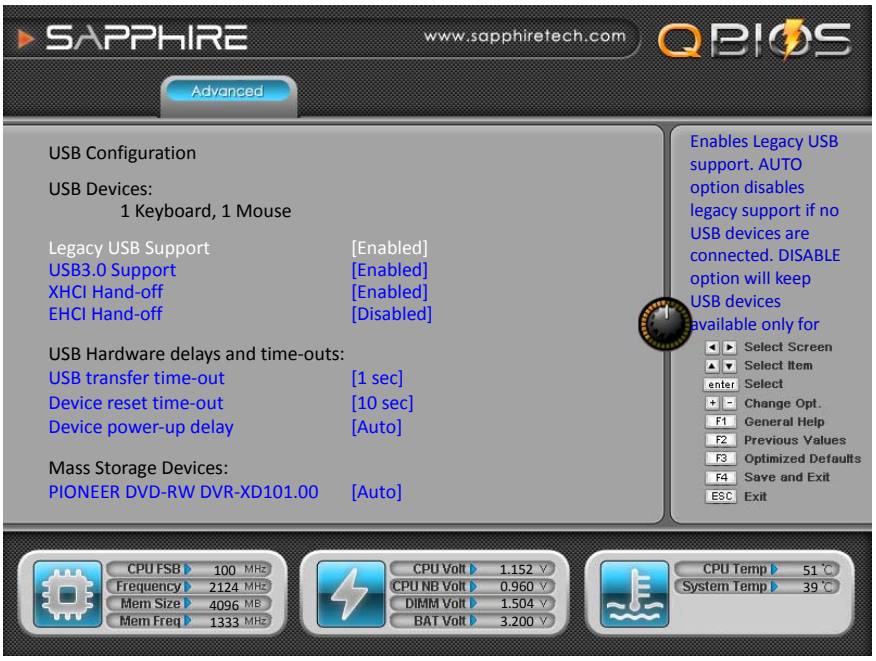
Options: AHCI, Legacy IDE.

- Legacy IDE Mode: Use the SATA hard disk drivers as Parallel ATA storage devices.
- AHCI Mode: Use the AHCI (Advanced Host Controller Interface) to enable advanced SATA features for improved performance with NCQ and Hot-plug features.

SATA Port 0

This field shows SATA port connection state.

▶ USB Configuration



Legacy USB Support

Allows you select legacy support for USB devices.

Enabled: Enables Legacy USB support.

Disabled: Keep USB devices available only for EFI application.

Auto: Disables legacy support if no USB devices are connected.

USB 3.0 Support

Enables USB3.0 (XHCI) controller support.

Options: Enabled, Disabled.

XHCI Hand-off

This is a workaround for OSs' without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

Options: Enabled, Disabled.

EHCI Hand-off

This is a workaround for OSs' without EHCI hand-off support. The XHCI ownership change should be claimed by EHCI driver.

Options: Enabled, Disabled.

USB transfer time-out

The time-out value for control, bulk, and interrupt transfers.

Options: 1 sec, 5 sec, 10 sec, 20 sec.

Device reset time-out

Sets USB mass storage devices start unit command time-out.

Options: 10 sec, 20 sec, 30 sec, 40 sec.

Device power-up delay

Maximum time the device will take before it properly reports itself to the Host controller. 'Auto' uses default values; for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

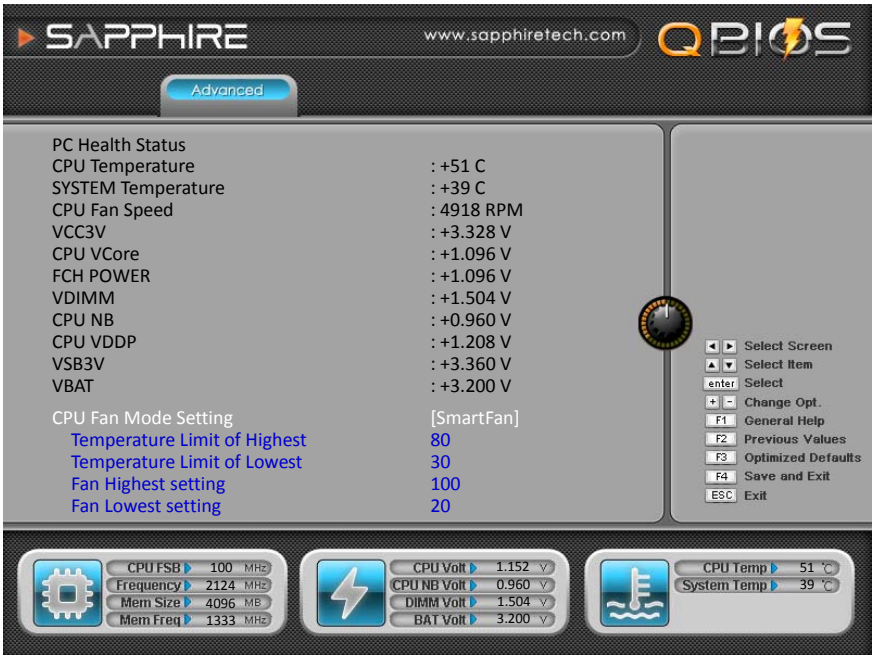
Options: Auto, Manual.

Mass Storage Devices

Mass storage device emulation type. 'Auto' enumerates devices according to their media format. Optical drives are emulated as 'CD-ROM', drives with no media will be emulated according to a drive type.

Options: Auto, Floppy, Forced FDD, Hard Disk, CD-ROM.

▶ H/W Monitor



CPU/ SYSTEM

Displays the current CPU and system temperature.

CPU Fan Speed

Displays the current CPU Fan Speed.

VCC3V/ CPU VCore/ FCH POWER/ VDIMM/ CPU NB/ CPU VDDP/ VSB3V/ VBAT

The current voltages are automatically detected and displayed by the system.

CPU Fan Mode Setting

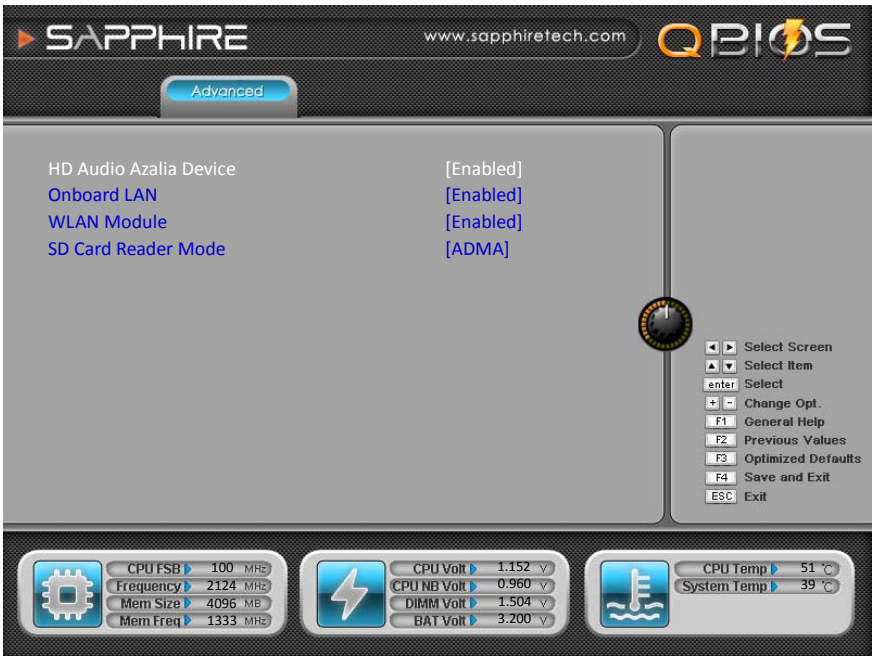
This item controls the speed of the various fans on the motherboard.

SmartFan: When you want the speed of the fans automatically controlled based on temperature.

Manual By DutyCycle: To set the fan speed to a constant rate, the speed from 0% to 100%.

Manual By RPM: This item can manual RPM count setting.

▶ Onboard Device



HD Audio Azalia Device
Enables the onboard High Definition Audio controller.
Options: Auto, Enabled, Disabled.

Onboard LAN
Enables the onboard Giga Lan function for LAN.
Options: Enabled, Disabled

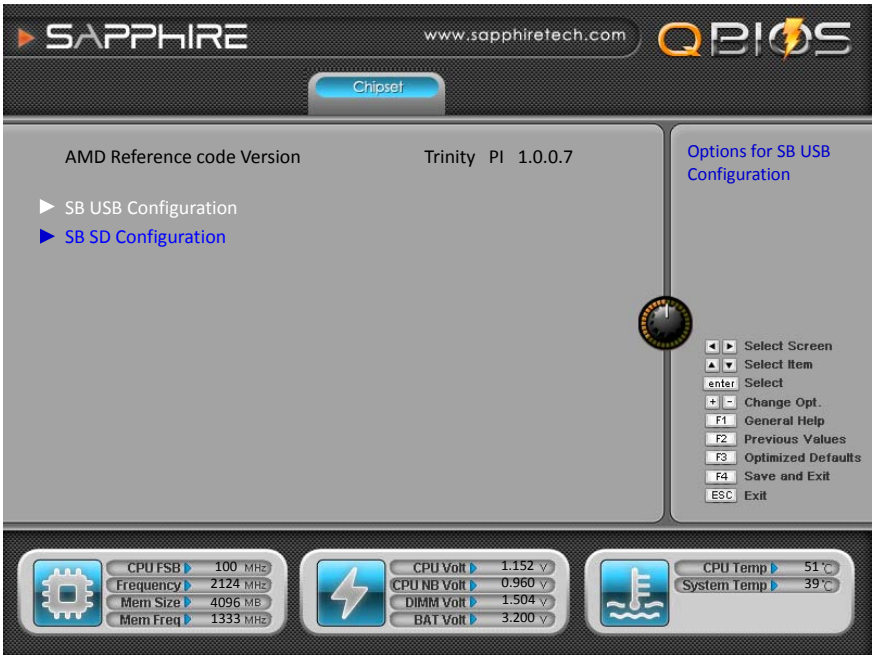
WLAN Module
Control onboard Wireless function.
Options: Enabled, Disabled.

SD Card Reader Mode
This item allows you to select SD Card Reader Mode.
Options: Disabled, ADMA, DMA, PIO.

5-5 Chipset Menu

The chipset menu items allow you to change the advanced chipset settings. Press <Enter> to display the sub-menu.

▶ South Bridge



▶ SB USB Configuration

XHCI Controller 0

Enables USB3.0 (XHCI) controller support.

Options: Enabled, Disabled.

▶ SB SD Configuration

SD Trace Length

This item allows you to select the SD trace length (inches).

Options: Less 6, Between 6 and 11, Greater 11.

SD SPEED

This item allows you to select the SD speed.

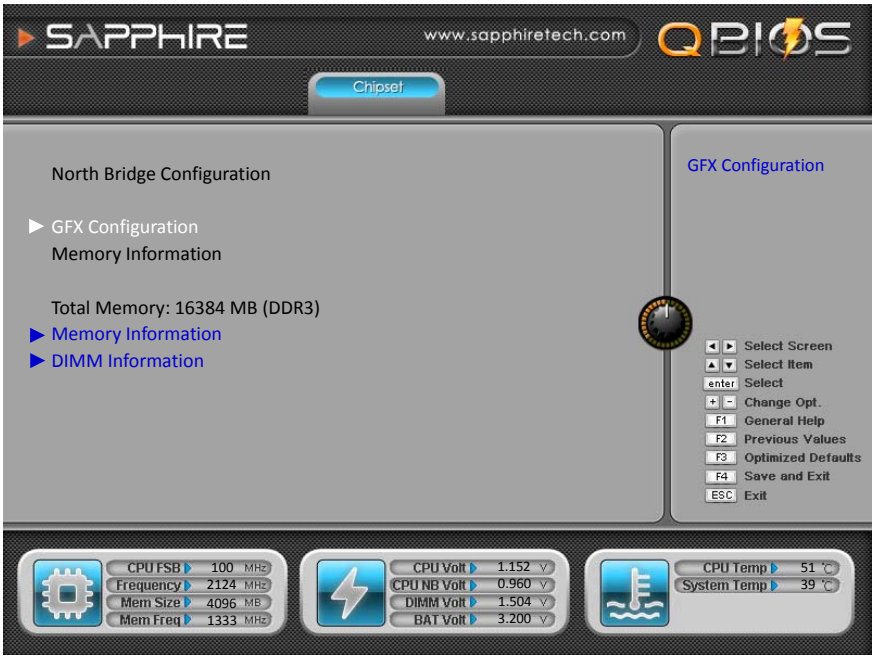
Options: Low, High.

SD Bitwidth

This item allows you to select the SD bit width.

Options: 32Bit, 64Bit.

▶ North Bridge



▶ GFX Configuration

Integrated Graphics

This item allows you to control Integrated Graphics controller.

Options: Auto, Force.

UMA Frame buffer Size

This item will only appear when “Integrated Graphics” item is set to “Force” option. It controls the amount of system memory that is allocated to the integrated graphics processor.

Options: 32M, 64M, 128M, 256M, 512M.

▶ Memory Configuration

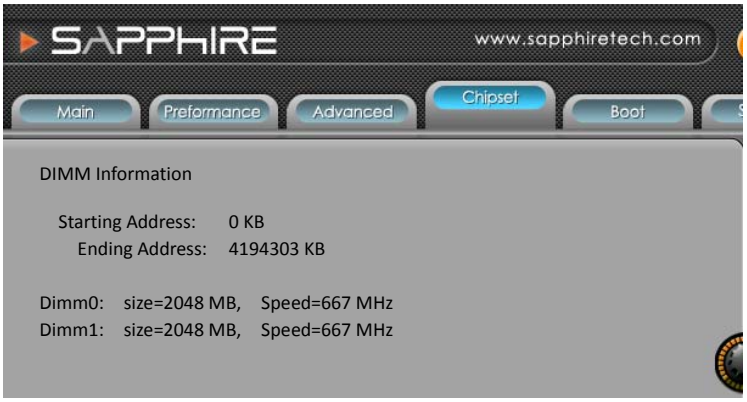
Memory Clock

This item allows you to select different memory clock.

Options: Auto, 800MHz, 1066MHz, 1333MHz.

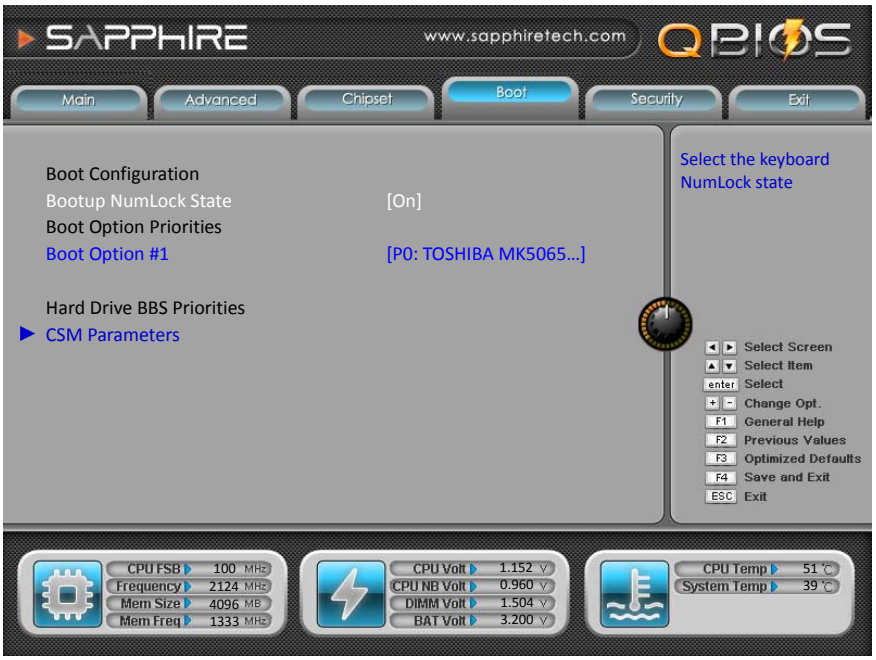
▶ DIMM Information

This filed displays the related memory information.



5-6 Boot Menu

The Boot menu is used to configure the boot settings and the boot priority.



Bootup NumLock State

This item allows you to selects the state of the keyboard's numlock function after POST.
Options: On, Off.

Boot Option Priorities

These options are used to form the boot order and are dynamically generated.

Hard Drive BBS Priorities

Allows configure the boot order for a specific Hard Drive device class.

▶ CSM Parameters

Boot option filter

This option controls what devices system can boot to UEFI or Legacy.
Options: UEFI and Legacy, Legacy only, UEFI only.

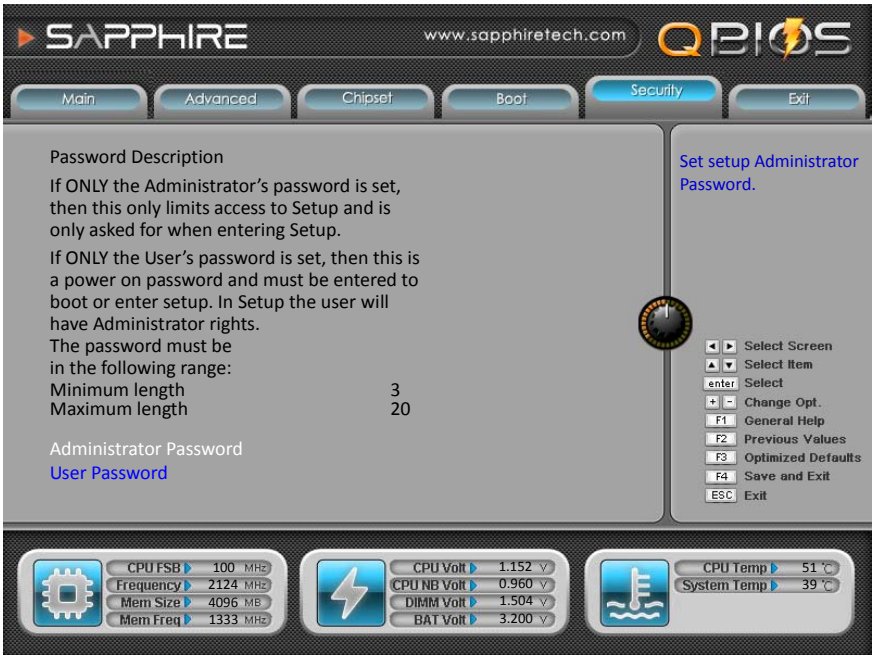
Launch PXE OpROM policy

This option controls the execution of UEFI and Legacy PXE OpROM.

Options: Do not launch, Legacy only, UEFI only.

5-7 Security Menu

The Security menu allows you to change the system security settings.


SAPPHIRE
www.sapphiretech.com
QBIOS
Main
Advanced
Chipset
Boot
Security
Exit
Password Description
If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.
If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter setup. In Setup the user will have Administrator rights.
The password must be in the following range:
Minimum length 3
Maximum length 20
Administrator Password
User Password
Set setup Administrator Password.
Select Screen
Select Item
enter Select
Change Opt.
F1 General Help
F2 Previous Values
F3 Optimized Defaults
F4 Save and Exit
ESC Exit
CPU FSB 100 MHz
Frequency 2124 MHz
Mem Size 4096 MB
Mem Freq 1333 MHz
CPU Volt 1.152 V
CPU NB Volt 0.960 V
DIMM Volt 1.504 V
BAT Volt 3.200 V
CPU Temp 51 °C
System Temp 39 °C

Administrator Password

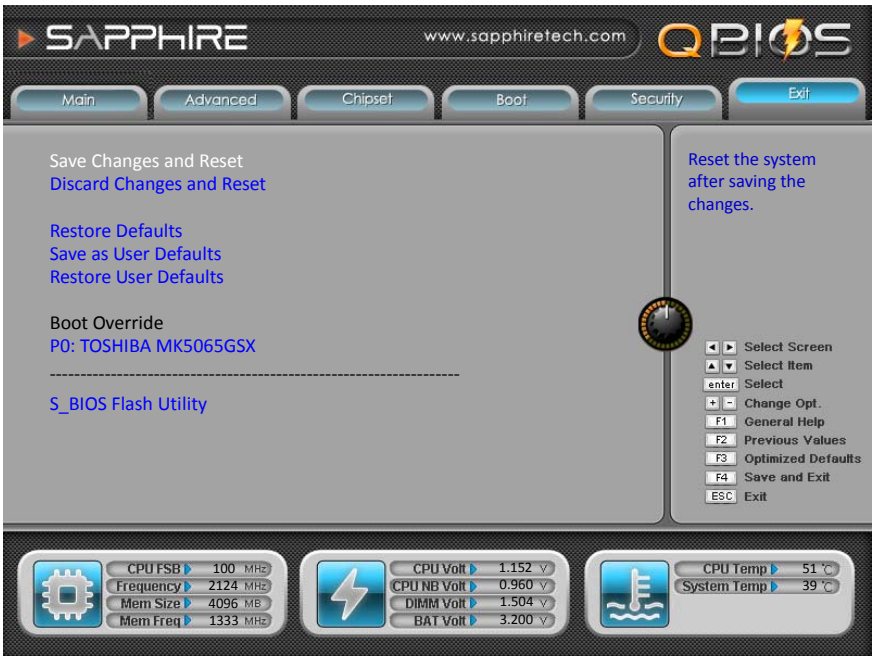
If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup. The password must be 3 to 20 characters long.

User Password

If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter setup. In Setup the user will have Administrator rights. The password must be 3 to 20 characters long.

5-8 Save & Exit Menu

The Exit menu allows you to load the optimal default values for BIOS, and save or discard your changes to the BIOS items.



Save Changes and Reset
This resets system after saving the changes.

Discard Changes and Reset
This resets system without saving the changes.

Restore Defaults
The restore defaults are the factory settings of this motherboard.

Save as User Defaults
This is used to save all current settings as user default. The current setup state can later be restored using Restore User Defaults.

Restore User Defaults
This is used to restore all tokens to settings previously stored by Save as User Defaults.

Boot Override
This group of functions includes a list, each of them corresponding to one device within the boot order. Select a drive to immediately boot that device regardless of the current boot order.

S_BIOS Flash Utility
This utility allows you to update the system BIOS in embedded BIOS.
Refer to the following steps for S_BIOS Flash.

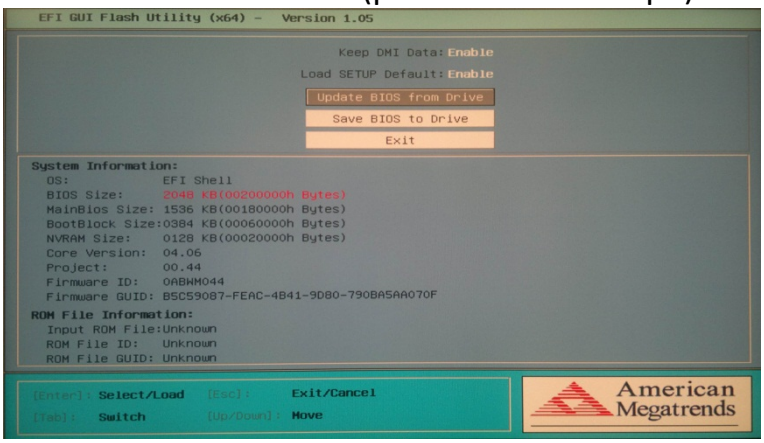
Step1:

Enter BIOS setup screen, select “S_BIOS Flash Utility” item from “Exit” tab.

Step2:

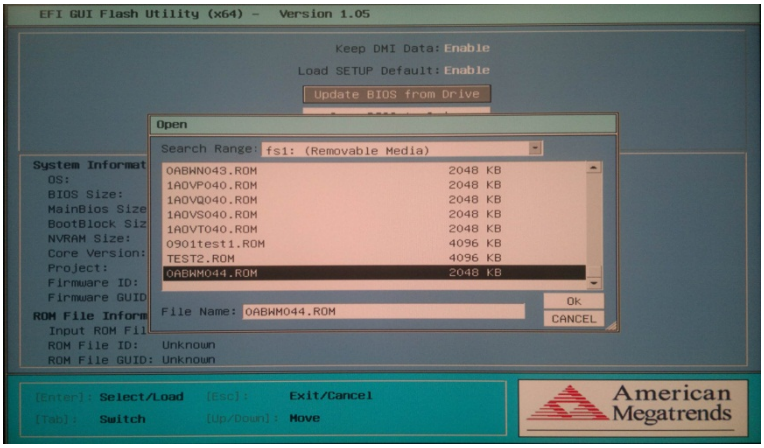
The S-BIOS flash utility allows you to:

- Update BIOS form Drive (please refer to setp3)
- Save BIOS to Drive (please refer to setp6)



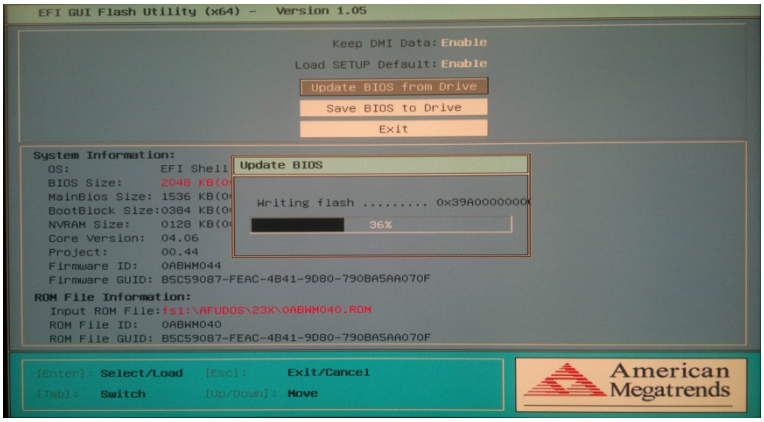
Step3:

To Update BIOS form Drive, select the BIOS update file and press <OK> to start update. If the BIOS file stored in USB device, please must first insert USB device before turning on the system and **make sure the BIOS update file matches your mainboard model.**



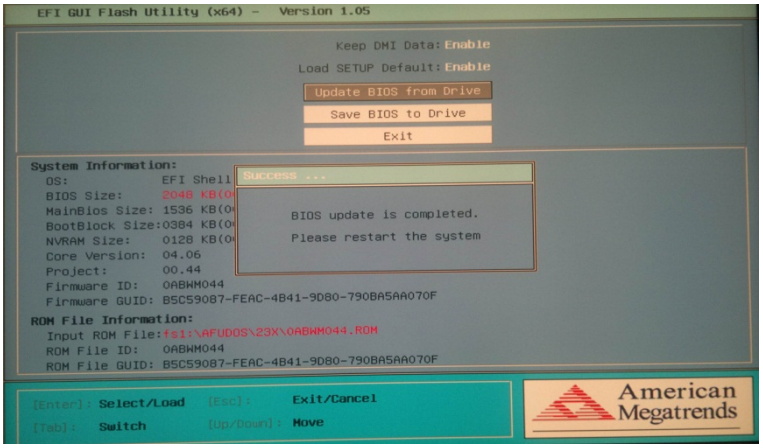
Step4:

The update BIOS processing screen appears.



Step5:

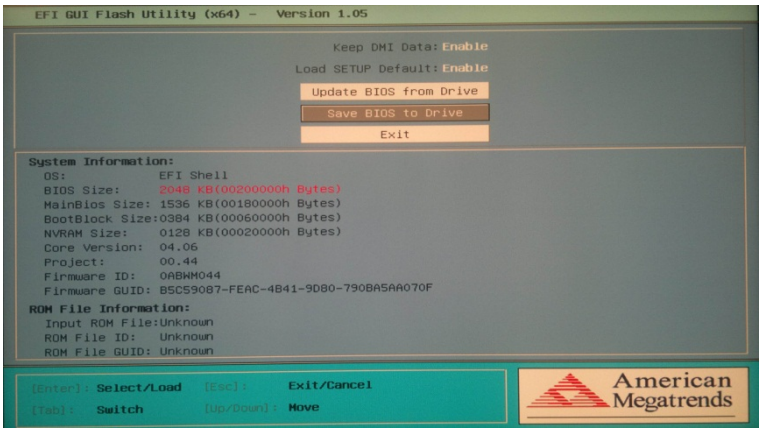
The BIOS update is completed. Please press any key to restart the system.



Step6:

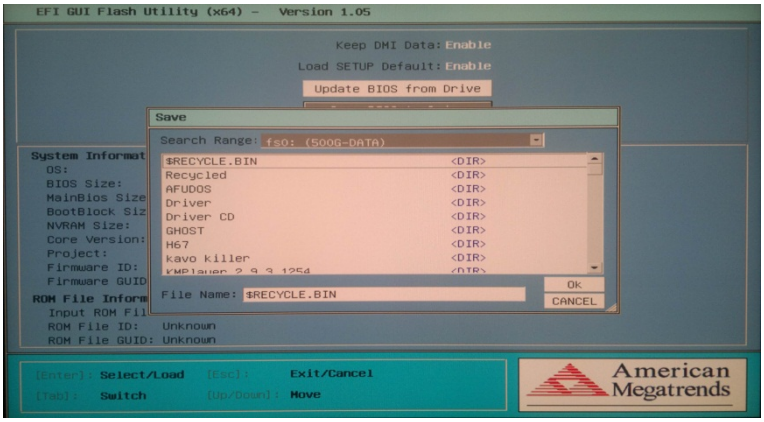
Save BIOS to Drive, allows you to save the current BIOS file.

If the BIOS file stored in USB device, please must first insert USB device before turning on the system.



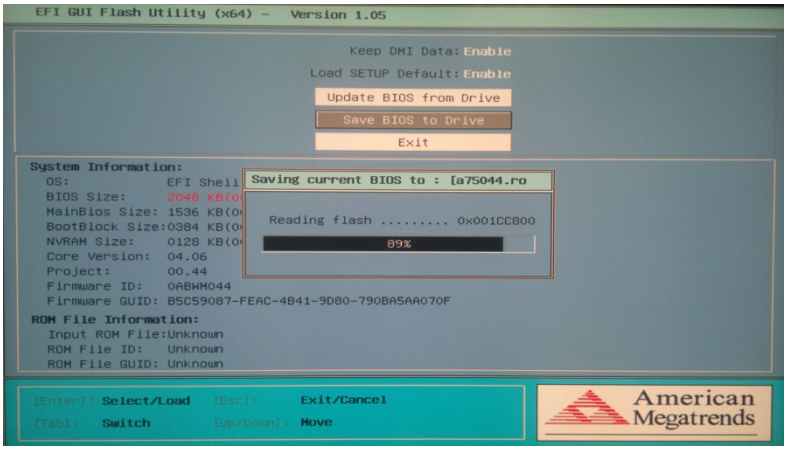
Step7:

To Save BIOS to Drive, Select the stored location and press <OK> to start saving BIOS file.



Step8:

After saving BIOS file is completed. Select <Esc> to return “Exit” tab of BIOS setup.



Warnings

- Do not use this product near water or a heat source such as a radiator.
- Do not place this product on an unstable stand or surface. If the product falls, it could be seriously damaged.
- The ventilator on the enclosure is used for air convection and to prevent the equipment from overheating. Do not cover the ventilator
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
- Never spill liquid of any kind onto or into the product.
- To avoid damage of internal components and to prevent battery leakage, do not place the product on a vibrating surface.
- Keep this equipment away from humidity and high temperature
- Do not operate the product in a location that is subject to an ambient temperature above 35°C (95°F) or below 0°C (32°F).
- Avoid using a cleaner containing alcohol or acetone to clean the equipment.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- Route the power cord in a way that people are unlikely to step on it. Do not place anything on top of the power cord.
- Keep any strong magnetic or electrical objects away from the equipment.
- Your device and its accessories may contain small parts. Keep them out of the reach of small children.

REACH
Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework.

RoHS
Complying with the RoHS (Restriction of Hazardous Substances) regulatory framework.

Lithium-Ion Battery Warning
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

CE Mark Warning
This is a Class B product, in a domestic environment, this product may cause radio interference, in which
case the user may be required to take adequate measures.

CE marking for devices without wireless LAN/Bluetooth

The shipped version of this device complies with the requirements of the EEC directives 2004/108/EC
"Electromagnetic compatibility" and 2006/95/EC "Low voltage directive".
R&TTE Directive 1999/5/EC as attested by conformity with the following harmonized standard:
•Article Safety
•EN60950
•Article EMC
•EN301 489-1/-17
•Article Spectrum Usages
•EN300 328

WEEE Statement
Under the European Union ("EU") Directive on Waste Electrical and Electronic Equipment, Directive 2002/96/EC, effective from August 13, 2005, states products of "electrical and electronic equipment" no longer may be discarded as municipal waste. Please refer to your original point of purchase for instruction on the correct procedure of discarding as municipal waste. It is the sole responsibility/obligation of the local authorized reseller/distributor of such covered electronic equipment to take back such products at the end of their useful life.

For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

FCC Statement This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note:

The manufacturer is not responsible for ANY interference, for example RADIO or TV interference, caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.